

# TECHNOLOGY AND LAW LIBRARY DESIGN

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Thank you Dean Hasl and Professor Julius Marke for inviting me here. I am honored to be part of this program among a distinguished panel of colleagues; I am especially honored to share in this dedication ceremony with Julius Marke, someone I have always admired for his breadth of knowledge and high energy level.

I enjoyed touring your new building before the program and was impressed by the successful marriage between the old and the new. This marriage might be thought of as a metaphor for what we are trying to do within our libraries: integrating access to information distributed in both old and new formats. I have learned much during this visit that will be useful to us at the Yale Law School Library as we go forward with our own building addition and renovation project. Thank you for showing us the way. I am especially impressed with the "smart" building idea, which enables one to walk into a stack area or into a rest room and have the lights go on automatically.

Let me see if I can pick up a little bit on what Professor Marke and Professor Betty Taylor, of the University of Florida College of Law, and Professor Kathie Price, of New York University School of Law, have said so far and tie their comments to library design considerations. Professor Taylor spoke about the future of the book versus nonprint information sources. In academic libraries this is an especially important issue. In the law firm setting, however, the future of the book is less important. It seems that law firms have already gone far beyond the book and rely much more on nonprint information sources. The reason for this is that law firm libraries have a different mission than law school libraries; they can move more quickly in the direction of nonprint information sources.

In academic law libraries, books account for more than fifty

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percent of space needs. Thus, many questions arise about the future role of print when we propose new building projects. You have all heard them: "Isn't all this stuff just going on-line anyway? What do you need a building addition for?" Nevertheless, we are faced with the dictum cited by Professor Marke at the outset of this program: law library collections double every 16 years, or, according to the rule of thumb that I have heard, they double every 20 years. At any rate, it certainly would be helpful to have concrete data on which to base our assertions, and that is why the information that Professor Taylor compiled can be useful.

My involvement in several recent building projects, first at the University of Wisconsin and now at Yale, led me to study data on the publication, acquisition, and use of law books. One of my objectives was to test the book doubling rule and see whether it held true. Accordingly, I reviewed twenty years of data. In academic libraries, this is easy to do. One can look at the ABA annual survey printouts<sup>1</sup> to gather data on law school library book collection sizes. Focusing on the *mean* averages from 1972 to 1992, one can see that hard volume book collections actually doubled. For the average law school library in 1972, the mean average collection was approximately 110,000 volumes.<sup>2</sup> By 1992, the average law school library collection had reached 220,000 volumes.<sup>3</sup> Therefore, the data supports the rule of thumb on book doubling after a twenty-year period of time. The next question is whether this rule will continue to apply in the future. In pondering this question, we might all keep in mind the oft quoted line from law library consultant George Grossman:<sup>4</sup> "The one mistake library planners have never been ac-

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<sup>1</sup> The American Bar Association, Section of Legal Education and Admissions to the Bar, sends an annual questionnaire to law schools in the United States. In 1969, the ABA began including a subdivision on law libraries in their questionnaire. The results are published annually in the *Law Library Journal*. See Alfred J. Lewis, 1969 *Statistical Survey of Law School Libraries and Librarians*, 63 L. LIBR. J. 267 (1970).

<sup>2</sup> See Alfred J. Lewis, 1972 *Statistical Survey of Law School Libraries and Librarians*, 66 L. LIBR. J. 189 (1973).

<sup>3</sup> See Julie Hanrahan, 1991-92 *Statistical Survey of ABA Law School Libraries and Librarians*, 85 L. LIBR. J. 643 (1993).

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cused of making is building a library that's too big."<sup>5</sup> It is usually the other way around.

To better understand where we might be headed on collection growth, I next analyzed the changing rates of collection growth over a period of time, to see whether I could detect any trends. In this area, the data was particularly interesting. Again, using the ABA printouts, and examining mean averages over the past ten years, I have found that there has been a steady drop in the rate of collection growth. Law school libraries have consistently decreased their annual rate of collection growth from approximately 4.5 percent ten years ago to approximately 3.1 percent last year.<sup>6</sup>

Let me clarify the data on collection growth rates. The average number of volumes added each year over the past decade has not changed significantly. Although the figure has held steady at around 7,000 volumes annually,<sup>7</sup> the rate of growth has dropped, because the average size of our collections has steadily increased. This means that although we will not see our collections double again over the next twenty-year period, we are still growing. Nevertheless, this trend could change if we were all to begin de-acquisitioning. Already many of the materials we hold in print are also available from online, nonprint sources. As users become more comfortable with accessing information from nonprint sources, the demand for print materials could be affected, which would allow for a more aggressive de-acquisitioning of print sources. Thus, it is useful to look at what is happening with the use of online systems in law schools.

Certainly, the use of WESTLAW,<sup>8</sup> LEXIS,<sup>9</sup> and related on-

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<sup>5</sup> George S. Grossman, *Programming for the New Library: An Overview*, 79 L. LIBR. J. 489, 489 (1987).

<sup>6</sup> See generally sources cited *supra* notes 2-5.

<sup>7</sup> Hanrahan, *supra* note 3, at 650.

<sup>8</sup> WESTLAW is a registered trademark of West Publishing. WESTLAW, a computer-assisted legal research system, was first introduced in 1975. The original version of WESTLAW's database contained only West Publishing's headnotes and synopses, but, in 1978, WESTLAW began offering a full text database. J. Abramsom et al., *Inside the West Empire*, in *LEGAL RESEARCH—HISTORICAL FOUNDATIONS OF THE ELECTRONIC AGE* 81, 84-85 (George S. Grossman ed., 1994).

<sup>9</sup> LEXIS is a registered trademark of MEAD Data Central, a division of The MEAD Corporation. LEXIS, a computer-assisted legal research system, began in the late 1960's as a project of the Ohio State Bar Association to put Ohio case law on a centralized computer. The project was later taken over by The MEAD Corporation and, in 1973, LEXIS was first offered nationally. STEVEN L. EMANUEL, *LEXIS FOR LAW STUDENTS* 1-1 (1994).

line sources has increased in law schools. The usage statistics for LEXIS and WESTLAW is reported in the ABA annual surveys, and show that there has been nearly a doubling in use every year for the past decade. For example, average law school usage of LEXIS and WESTLAW reached twenty-one hours per student last year,<sup>10</sup> up from eighteen hours per student the year before.<sup>11</sup> In contrast, the average annual usage of these systems was reported at less than two hours per student in 1986.<sup>12</sup>

The next issue concerns the use of printed books. Are we still using printed materials to the same degree that we have in the past despite the increased use of online systems? The general sense among law librarians is that use of printed materials has increased, despite the increased use of online systems. They claim that circulation statistics have increased dramatically. However, one can think of many reasons, beyond actual usage of the books, that could drive circulation statistics up. First, users no longer have to fill out a card for every book they check out. They merely go up to the circulation counter and "wand" them with a scanner. Large stacks of books can be charged out with little hassle, whereas previously these materials may have been used just as much on the premises. Furthermore, circulation statistics merely measure use of a small portion of the collection, because law school libraries are primarily reference libraries and most of the material is restricted to in-house use.

Photocopying statistics are also cited by some as a measure of collection usage. However, the fact that the amount of photocopying has increased dramatically in most libraries is equally suspect as a measure of book usage as circulation statistics. Copying rates may be up simply because improved technology in photocopy machines have made it easier and less expensive to copy materials. Moreover, the increased use of photocopiers just might be part of our evolving culture: students could be copying more while reading less. In short, it is not clear that any of these statistics accurately reflect book usage.

In search of a more reliable measure of book usage, I began

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<sup>10</sup> See Julie Hanrahan, *1992-93 Statistical Survey of ABA Law School Libraries and Librarians*, 86 L. LIBR. J. 617, 632-36 (1994).

<sup>11</sup> See Julie Hanrahan, *1991-92 Statistical Survey of ABA Law School Libraries and Librarians*, 85 L. LIBR. J. 643, 656-60 (1993).

<sup>12</sup> See David A. Thomas, *1985-86 Statistical Survey of Law School Libraries and Librarians*, 79 L. LIBR. J. 547, 584-86 (1987).

thinking about reshelving figures. I remember reshelving books at the University of Washington in Seattle in the mid-1970s. As a part of my job, I was required to keep a count on the number of books I reshelved on each floor. I know many University of Washington law librarianship students have shared this experience over the years, and it occurred to me that if this information was still available, it might shed more light on the book usage question. I contacted Penny Hazelton<sup>13</sup> at the University of Washington and asked if she still kept reshelving statistics. She informed me that she did, but that she never looked at them. I asked if she would mind taking a look and letting me know what sort of trends have been occurring over the past decade, such as whether she was shelving more or fewer volumes.

Professor Hazelton's response was not what I expected. She explained that the number of lawyers in the community, as reflected by user registration cards was way up. However, despite this increase in outside users, the reshelving was down substantially - 25 percent over the past eight years! After hearing Professor Hazelton's statistics, I did a quick survey over LAW-LIB, on the Internet,<sup>14</sup> and then followed up with some phone calls, looking for other law libraries that have tracked reshelving data. The feedback I received was consistent with what I had learned from the University of Washington. For the half dozen or so libraries tracking this data, most showed a common trend over the past decade: fewer and fewer books were being reshelved each year. The percentages are similar to those reported by the University of Washington. For example, both the Universities of Pittsburgh and Virginia show decreases in their reshelving by twenty-five percent or more over this period; Pittsburgh fell from over 105,000 volumes reshelved in 1981-82, to just over 73,000 volumes reshelved in 1991-92. The few libraries with non-conforming data can be readily explained. For example, John Marshall University (in Chicago) has recently taken over the Chicago Bar Library and its users, and Georgetown University

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<sup>13</sup> Penelope A. Hazelton, Professor of Law and Law Librarian, University of Washington School of Law. B.A., Linfield College; J.D., Northwestern College of Law (now Northwestern School of Law).

<sup>14</sup> The Internet is the world's largest computer network and is funded by government agencies, grants, and member institutions. User access to the Internet is gained through commercial access providers. See Jonathan A. Franklin, *One Piece of the Collection Development Puzzle: Issues in Drafting Format Selection Guidelines*, 86 L. LIBR. J. 753, 759 (1994).

has added a new building and an ambitious collection expansion program. Overall, however, the reshelving statistics from most law libraries suggest that fewer printed books are being used.

Perhaps the more interesting part of this line of inquiry is what parts of the collection are being most affected. Are there certain parts of the collection that explain the decrease in book use, or are all parts being affected equally? Fortunately, both the University of Washington and the University of Virginia break down their reshelving data according to sections of the library. This sheds more light on what is going on. The interesting fact is that the section of the library that is down the most at the University of Washington is the faculty library! Faculty library reshelving is down by more than thirty-five percent at Washington. The decrease in use of faculty library materials at the University of Washington probably speaks well of their faculty. Their faculty's computer literacy, due to Penny Hazelton's training, is likely increasing, and they have realized that the types of print materials housed in their faculty library are readily available online, from the convenience of their offices. The faculty library is basically a reproduction of the library's core collection and these materials are mostly available on LEXIS and WESTLAW. At any rate, the decrease in use of these core materials (in the main collection as well as the faculty library) may be at the heart of what is reflected in the reshelving figures for the entire library.

Information from the University of Virginia reveals similar results. Removing the reading room data from the count, which is their core collection, the reshelving statistics have not changed. In other words, there really has not been significant change in the reshelving data for the rest of the library's collection over the period of time measured. Everything is attributable to the decline in the use of that core collection. This change is consistent with the other data showing an increase in circulation which some law libraries are reporting. Since materials in the core collection typically do not circulate, a decrease in use of these materials could be consistent with an increase in the use of a law library's circulating collection, such as texts and monographs.

What we see happening poses yet another question: what is likely to happen when the secondary sources go online in more of a full scale fashion? So far, what is available online has basically

been primary source materials. As and more and more legal researchers in the academic environment catch on, they are discovering that using these materials online has many advantages over print. It is more convenient to get the materials—they do not have to leave their homes; it is often easier to locate information, and once in hand, it is easier to turn it around, rework it, and create documents. In contrast, only a small portion of secondary materials are online. However, the amount of secondary sources available online continues to grow, and should the demand make it worthwhile, the amount of secondary source material placed online could increase substantially. Will the demand for these materials in print follow the same pattern as that of primary sources? It is my opinion that most secondary sources are used in a sufficiently different manner than primary source materials such that the demand for them in print format will continue. The reason is that secondary sources are simply easier to use in print than online. Thus, I submit that these collections will continue to grow. Of course, this is largely crystal ball gazing with the benefit of hindsight; none of us really knows the answers to these questions. So, for planning purposes, we need to be flexible and remember that things might change quickly.

In the meantime, the statistics reveal that it may be prudent to begin removing duplicate copies of primary source materials which are available online. An increasing number of academic law libraries are taking this approach, pushed by space and budget limitations on one side and encouraged by a slackening demand on the other. My sense is that the value of used reporters, such as the National Reporter System reports, has dramatically fallen over the past five years. State codes, citators, digests, and many looseleaf services may be the next in line to go. Most of this information is now available online, and its use online is often simpler and more efficient.

I want to use this background to address the issue of law library planning and give my opinion about how best to plan new buildings in an uncertain future for book growth. I believe that the most prudent approach is to plan libraries that accommodate a continued moderate book growth while allowing for flexibility in design. The new library should also allow for integrated access to information in other formats. Therefore, it will be possible for users to pull up online information from any point in the

library and use this information conveniently in conjunction with the print collections.

Some may question a prediction of continued growth in print collections in light of what we have seen with the decline in demand for primary source materials that are now available online. However, I believe that moderate continued growth is the most likely scenario. The decline in demand for primary resources in print and the trimming of duplicate copies of these materials may allow us to gain some space. However, these space gains may be no more than one time in nature. In most instances, I believe there will be a continuing demand for at least one copy of these materials in print, otherwise some categories of users (as is currently the case for LEXIS and WESTLAW) may be unable to access these information sources. Furthermore, many users will prefer the print versions for a variety of reasons, including the important archival role they play.

In short, I believe that academic law library book collections will continue growing for at least the near future. Indeed, they may continue to grow indefinitely. Thus, it would be risky, and perhaps foolish, to build a new law library without planning for continued book growth. On the other hand, it would also be foolish to build a library fixed around the proposition that book collections will continue to grow indefinitely, especially since we are currently in the digital age. So, how do we plan new library buildings in this environment of uncertainty? There are several options to consider.

Looking at some of the larger research libraries, such as Harvard, Columbia, and Yale, three approaches to accommodating book growth can be found. Harvard is using off-site storage to limit the need for collection growth space in-house. Columbia is moving forward on an ambitious imaging project to convert existing print materials to digital formats, thereby freeing up currently occupied shelf space for new print materials. Finally, Yale, by creating a massive compact shelving facility attached to its current library, is expanding its existing library facility in a manner that will allow for continued collection growth on-site. Eventually, we may all mix and match these different approaches, but what they all currently have in common is a recognition that we have to accommodate continued collection growth in a cost-effective and flexible manner. I will briefly elaborate on what I know about each of these plans.



As many of you know, Harvard University has been using an off-site book storage facility for several years now, and by all reports this has answered a major need for library book collection growth space. The facility is located approximately thirty miles from the Harvard campus. Location, however, is of minimal importance: Requested materials are sent directly to the user at the main Harvard campus rather than requiring the user to go to the facility. Bibliographic information for the books held off-site is included in the Harvard online catalog—HOLLIS. If a researcher finds a title in the catalog that is held off-site, he or she can make a request for it and have it filled within twenty-four hours. I understand that this is an efficient and smoothly run operation. All of the books in this storage facility, which is much like a warehouse, are barcoded, and the barcoded books are housed in barcoded boxes according to size rather than subject classification. The inventory control is extremely good, and the warehouse managers know precisely what is there and where it is located within the warehouse at any given time.

This off-site facility is central to the Harvard Law Library's current building renovation plans, which are intended to make their current library facility more user friendly and capable of handling modern technology. It will be properly air-conditioned and provide good access to online systems, but little or no new book space will be provided on-site. Rather, the off-site facility will be used to make room for expansion of their book collection by moving older materials off-site to make room for new materials.

Similarly, the renovation about to begin at Columbia is not intended to create new book space, although they do anticipate continued growth in their print collections of about 12,000 or more volumes annually. To make room for these new materials, Columbia is counting on its imaging project—Project Janus—to enable it to begin discarding a nearly equal number of older print materials each year. In this regard, Columbia and Harvard have similar plans: both plan to accommodate continued growth in their print collections by moving older print materials out of their facilities, either to off-site or to digital storage facilities. Should the acquisition of new print materials substantially diminish, these institutions will not be left with large, empty facilities designed for the print age. Both Columbia and Harvard are hedging their bets on the future of print, and the new space

is being designed for people rather than for books.

At Yale University, we are taking yet another approach to accommodate book growth. We are approaching this in the same manner as Harvard and Columbia in terms of the future of print, so that our major new library space is designed for people, services, and technology—not books. However, if it can be avoided, we would rather not follow Harvard in the use of off-site storage. The primary drawback we see with off-site storage is the limitations it places on researchers by denying them the ability to browse. Furthermore, they need to wait a day to see any particular item they want. This is how many closed stack libraries have long operated, but, if possible, we would rather avoid this kind of arrangement. Similarly, while we respect Columbia for taking a leadership role in the use of imaging technology, we are pursuing other avenues for handling collection growth needs until we see how well Columbia and other institutions make out with this technology.

Fortunately, the Yale Law Library is blessed with a large underground facility unsuitable for human habitation but ideal for massive book storage. Until now, this facility has been known as the Foreign & International Law Annex, or simply “the Annex.” It is physically connected to the main Law Library building at the basement level, accessible via tunnel, and is also adjacent and connected to the Beinecke Rare Book Library.

Currently, the Annex has shelving capacity for approximately 200,000 volumes. Our plan is to move the core foreign and international law collections into the main library building, which is also being renovated and expanded. The Annex will then be entirely gutted to allow for the installation of high density compact shelving. This will more than double our shelving capacity in the Annex, bringing it to nearly 500,000 volumes.

In a sense, we will have two interconnected libraries at Yale. The main library facility will be an expansive, modern, high tech, service-oriented library. Although it will house less than half of our collections, it will be the part of our collection that is most used. The adjacent facility, the former Annex, can be described as an on-site, off-site storage facility. It will be similar to a wing attached to the lowest level of our renovated main library facility, and it will be fully open to all of our library users. Nevertheless, the user space in the former Annex will not be quite as ample or as pleasant as the main facility. For example, there

still will be no natural light in the Annex, and the space will be designed with predominantly high density compact shelving with only pockets of seating for our users. Users will, however, be able to browse the collections held in the Annex and have immediate on-site access to anything we hold.

The three approaches for handling collection growth at Harvard, Columbia, and Yale have several important characteristics in common. All three libraries will be able to handle continued growth in the collections, but the future is not tied to print. Should print collections continue to expand Harvard can simply send more materials off-site; Columbia can image more materials; and Yale can store more materials in its underground compact stacks. On the other hand, should print materials become obsolete, Harvard can stop sending materials off-site and perhaps even bring some back; Columbia will have its digital library and perhaps have a leg up on the rest of us; and Yale can consider turning over its compact stacks to the Beinecke Rare Book Library, which presumably will always need the stack space. None of us is rushing to build another large library designed primarily for books. Instead, we are exploring flexible options to accommodate book growth and designing our libraries for users who will be accessing information in a variety of formats.

Thus, beyond accommodating print collections, new law library facilities need to support access to information in multiple formats and provide the services to support their users. These formats include microforms<sup>15</sup> and such basic things as suitable photocopy services.

No one, except maybe Jerry Dupont,<sup>16</sup> likes microforms, but microforms continue to fill an important information niche and may well be with us for years to come, despite progress being made with imaging technology. In my opinion, it would be a mistake to design a new law library without including adequate space for microforms. Growth in microforms has been steady at academic law libraries over the past decade, with the average li-

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<sup>15</sup> Microform refers to a software medium on which original full scale print documents can be reduced and reproduced, saving space. Special hardware is then used to view the microform image. Microform formats include microfiche, microfilm, and micro-opaque. Edwin M. Schroeder & Randall T. Peterson, *Microforms and Audiovisuals*, in 2 *LAW LIBRARIANSHIP: A HANDBOOK* 499, 502 (Heinz P. Mueller & Patrick E. Kehoe eds., 1983).

<sup>16</sup> A. Jerome Dupont, Executive Director, Law Library Microform Consortium, Honolulu, Hawaii.

brary adding 6,000 volume equivalents annually.<sup>17</sup> Microform collections now account for approximately one-third of the total collections at such libraries. While some of us would like to think that image databases will soon replace microforms, there are some major obstacles. At least one colleague who forecasted the replacement of microforms with image databases some ten years ago still holds a large microform collection in her libraries, because these materials remain unavailable in any other format.

An imaging project at Yale, the "Open Book Project," is examining the replacement of microform with images. One of the things we have learned thus far is that microforms may make better sense than digital images for the preservation of lesser used information sources. The research is being carried out by the Preservation Department at Yale's Sterling Memorial Library in tandem with a similar project at Cornell University's main library. At Yale, some 10,000 volume equivalents are being converted from microform to images, while at Cornell volumes are being converted from print formats to images. Record keeping is performed in the same manner for ready comparison of the costs involved, and one of the more interesting results is that most of the time involved in converting to digital images is related to handling the print materials. It takes from one and one-half to two hours to convert a print format book to a digital image, yet it takes only approximately a half-hour to convert a microform equivalent. The problem involves preserving access to the digital image. The media on which digital images are stored can be accessed only on certain types of computer hardware, and these hardware platforms are rapidly evolving and changing. Thus, digital images made today are not likely to be readable on the hardware which will be used in several years. Furthermore, even if standards were to evolve which would lead us to believe that today's imaging media could be accessed on tomorrow's hardware platforms, we still face unknowns about the life expectancy for this media. It is more likely that these images will need to be transferred to new media every couple of years in order to remain usable. For much of the lesser used information

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<sup>17</sup> A microform volume equivalent is calculated as five volumes for each role of microfilm and one volume for every six microfiche. Hanrahan, *supra* note 4, at 643. See also Nancy C. Carter & Jerry Dupont, *Microforms: Still a Future in Law Libraries*, in *THE SPIRIT OF LAW LIBRARIANS: A READER* 219 (Roy M. Mensky & Richard A. Leiter eds., 1991) (discussing expansion of microfilm collections in law libraries).

which we currently hold on microform, this simply may not make sense.

Let me move beyond both microform and print and say a few words about providing access to online sources. As I noted at the outset, law school use of online research sources, such as LEXIS and WESTLAW, has been increasing at exponential rates over the past decade. This survey information does not include use of other electronic research tools, such as those available on CD-ROM<sup>18</sup> and the Internet. If we were to include these other sources in the count, the rise in the use of online systems would appear far greater! Together, these varied sources of information are indispensable for carrying out effective legal research, because no single format will provide researchers with all of the information they need. For example, older law journal articles, texts, and treatises may only be available in print. Briefs and documents may only be available in microform. A growing amount of other data may only be accessible via LEXIS or WESTLAW, such as unpublished intermediate appellate court decisions. Still other information may only be available on the Internet, as was the case for the initial NAFTA treaty drafts. Modern law libraries need to provide users with easy, integrated access to all of these interrelated sources of information. They also should provide facilities for training users in the effective use of these varied information sources.

At this juncture, I want to address the related topic of how law school computer services fit into this mix. This can be thought of as a design issue, because it relates to where the personnel for these services are located. I strongly believe computer services should be included within the library's administrative umbrella, and this is the approach we have taken at Yale. This is the way in which law school computer services were organized at Wisconsin and several other institutions. It makes sense organizationally for a number of reasons. First, from the library's perspective, its expanding reliance on digital information sources speaks in favor of having administrative control over computer services. Second, from the user's perspective, the service orientation of the library makes this arrangement desirable. Finally, from a law school administrative perspective, the extensive

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<sup>18</sup> See generally DEBRA S. PANELLA, 2 BASICS OF LAW LIBRARIANSHIP 44-46 (Ellis Mount ed., 1991) (discussing CD-ROM and its benefits).

budgetary and personnel management experience of the library speaks in favor of locating computer services within this part of the organization chart. I am sure some will disagree with this point of view and fail to recognize how strong the benefits are for everyone involved if we integrate these services, so let me return to library design.

The ideal law library should provide users with easy, almost ubiquitous access to information in all formats. This means that a library user should be able to conveniently access online information from nearly any part of the library. For example, one should be able to go to any part of the print collection and, using a notebook computer, sit down at a nearby study carrel or table and connect to the library's online resources. The data connection should provide access to the law school's local area network, the Internet, and possibly to campus information resources. Using this data connection, the user should be able to search the library's OPAC<sup>19</sup> for locations of relevant print information, which can then be pulled from nearby shelves. The OPAC should give real time information for the status of items on order, in process, or charged out to other users or the bindery. The user might also be able to place interlibrary loan requests for materials not available in-house. Beyond the OPAC, the user should be able to search local databases, such as the increasing number of information sources being distributed on CD-ROM. Using these sources, the user should be able to pick relevant research sources from a menu of whatever the library might make available, such as Congressional or treaty indexes. Moving beyond local databases, the user should be able to pick commercial online sources, such as LEXIS, WESTLAW, and DIALOG,<sup>20</sup> via the Internet. In addition, the user should be able to move into the world of gophers and World Wide Web servers, preferably by beginning in one run by the home law library which would mount particularly relevant information sources, such as faculty

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<sup>19</sup> Online Public Access Catalog.

<sup>20</sup> DIALOG is a registered trademark of Dialog Information Services, Inc. DIALOG is an online service that offers a variety of specialized databases containing non-legal information. DIALOG databases are accessible through a seamless interface with WESTLAW. ROSALIE MASSERY SANDERSON, BEYOND LEGAL INFORMATION—SEARCHING DIALOG ON WESTLAW: A GUIDE FOR LAW STUDENTS 1 (1993); see also Margaret M. Krause & Gary M. Cann, *Reference: An Overview*, in LAW LIBRARIANSHIP: A HANDBOOK FOR THE ELECTRONIC AGE 493, 500-03 (1995) (discussing DIALOG and its use).

bibliographies and research profiles, and be pointed to other sources from there. Of course, electronic mail and related services would also be available such that a user stumped on how to use a LEXIS citator, for example, could use the e-mail function to sign up for the next refresher course offered by the library, and a faculty research assistant could forward the product of her research to her faculty member.

This vision is readily possible and is being implemented by a number of law schools. Several prerequisites are required. First, the library's processes must be automated with holdings searchable through an online catalog: the more integrated the library system is the better. Second, the library needs to be networked with the online catalog being just one of numerous choices that should be available via the network. Third, CD-ROMs should be mounted on the network, and the network should be linked to the Internet for easy access to both commercial database services (such as LEXIS and WESTLAW) and to gopher and World Wide Web sites.

Speaking more specifically to library design issues, wiring for network connections should extend not only to all staff work areas, but also to study carrels throughout the library. We should anticipate more library users coming into our facilities with laptop or notebook computers, looking for both electrical and data outlets at their study areas. On the other hand, keep in mind that computer use can be distracting, and one may wish to keep some parts of the library free of computers, declaring them quiet zones. Initially, data connections may not be desirable in these quiet areas, but options should be kept open by at least including electrical conduits.

The library I am describing anticipates that most users will bring along their own computers, but we also need to plan for those who do not carry a computer with them. For example, some fixed workstations will be needed for the convenience of all users for searching databases as they enter the library. Additionally, lending notebook computers to users might be considered. This would enable users to access information around the library at any point where there is a data outlet. The notebook computer lending experience at Wisconsin and Yale provide examples of how to implement such programs.

Some may be surprised to hear that computer labs will continue to be desirable within the library. As a matter of fact, at

least two labs should be included: one designed primarily for instructional purposes, and the other designed as a working lab. The instructional lab is needed for teaching how to use the ever expanding array of electronic research tools the library makes available. The workstations in this lab should all face one direction with ample aisle room so an instructor can easily move behind each station. The working lab would be used primarily for study and research. It must provide users with state-of-the-art high level computing equipment. The workstations in the working lab might be arranged to provide users with a higher level of privacy than the instructional lab arrangement. Having these labs adjacent to one another would allow for overflow from the working lab to use the instructional lab, when available, and to have support staff cover both areas.

Finally, I would like to say a few words about designing staff space. The advice I would give here is similar for other parts of the library: first, be flexible, and second, be sure to provide enough of it. It is a common mistake to think that automation will allow us to cut back on the number of staff members we employ, but we have been automating for the past decade, and the figures from this decade shows just the opposite. The average law school library has actually increased in size over this decade, especially in terms of number of professionals employed. This professionalization of our staffs seems to be directly related to automation: lower level tasks are automated, but more employees with higher level skills are needed to respond to the resulting higher level service demands. It may be that this trend will change, but if it does, I do not think it will be over the near term, especially for those of us who are getting involved in providing law school computer services. However, the role of our staff members is definitely changing, and future changes may occur in ways that we cannot anticipate. The work areas we design should anticipate these uncertainties and allow for easy modification further down the line.

The single conclusion to be drawn from all of this is to plan library buildings that offer maximum flexibility in all areas. Consider book storage options that can both accommodate continued growth and allow for a future with less books. This can be accomplished in numerous ways. First, allow for the later conversion of some open stack areas to compact shelving, or the later expansion of the library into other non-essential or unfin-



ished portions of the building located adjacent to library space. Second, incorporate conduits for wiring throughout most of the library so that new wiring can be pulled at some later date when standards change or more electronic access is needed. Third, include space for computer labs and classrooms, as well as microforms, with adjacencies that allow for the growth of one function off-setting the diminished use of another. Fourth, recognize that students will continue to come to the library for study and research, despite home access to electronic information sources. The library is more convenient and offers expertise, materials, and equipment that will always outstrip home study areas. Finally, anticipate that staff needs are also changing. Our experience with automation has shown that the use of computers increases the demand for library services, while shifting the need for support staff to higher level functions within the library. Library buildings designed to accommodate these uncertainties will best serve user needs well into the future.

